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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DIACOU, ARI M

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/775,103	Applicant(s) KAWAHARA ET AL.	
	Examiner Ari M. Diacou	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection, which is necessitated by amendment.
2. With regard to the arguments petitioning the rejoinder of group II with group I (claim 6 with claim 1), the arguments are convincing. Claims 6-10 will be prosecuted as belonging to group I, although group III (drawn to a transmission system) is still withdrawn from consideration.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ye et al. (USP No. 6414788) published July 2, 2002 in view of Drake et al. (USP No. 6366395).

- Regarding claim 1, Ye discloses an optical amplifying method in which at least one optical amplifier is connected to an optical transmission line, an optical signal transmitted to said optical transmission line is amplified by said optical amplifier while an optical power of the optical signal on the optical transmission line is detected, and gain of the optical amplifier is controlled in response to an optical power of thus detected, the method comprising the steps of:
 - detecting an optical input and output power of said optical amplifier; [Fig. 12, #76] [Col. 5, line 66 - Col. 7, line 41]
 - obtaining a difference between gain of said optical amplifier and target gain on a basis of detected optical input and output power; [Fig. 12, #78] [Col. 6, lines 40-62]

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- implementing a proportional calculation and an integral calculation of said difference by an automatic constant gain control device to obtain a drive current of at least one pump laser diode provided in said optical amplifier; and . [Fig. 12, #80] [Col. 6, lines 60 - 65]
- controlling gain of said optical amplifier by controlling current of said pump laser diode based on a calculated drive current value. [Fig. 12, #84] [Col. 7 lines 15-20]
- adjusting control parameters of said automatic constant gain control device in response to a detected result obtained by detecting the optical input power to said optical amplifier, wherein [Col. 6: 48-59]

but fails to disclose:

- the drive current of said pump laser diode is obtained by the automatic constant gain control device with said control parameters adjusted. [In light of the interview and the arguments, this is interpreted to mean “on-the-fly” as opposed to being obtained from a “look-up table” (from a “look-up table” is synonymous with “determined experimentally”)]

Drake teaches that using a look-up table and obtaining a value using an algorithm are obvious over one another. [Col. 5, lines 34-40]. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to obtain the drive current on-the-fly, for the advantage of accuracy afforded by the continuum of values in the range of pump current

values (as opposed to a discrete set of values that must be programmed in a table).

- Claim 6 is rejected under the same reasoning as claim 1, Ye further disclosing an optical transmission system with at least one amplifier and one wavelength division multiplexing device [Col. 1: 12-22] [Fig. 1, #20 is the WDM device]. Ye further discloses the step of inputting/outputting optical signals of prescribed wavelengths to/from said optical transmission line by said wavelength division multiplexing device. [Fig. 1, this is reciting the normal operation of an add/drop device]
- Regarding claims 3 and 8, Ye further discloses the optical amplifying method as claimed in claim 2, wherein in said step of adjusting said control parameters, proportional constant of a proportional circuit in the automatic constant gain control device as said control parameters is adjusted. [Col. 6, lines 57-62]
- Regarding claim 4 and 9, Ye further discloses the optical amplifying method as claimed in claim 2, wherein in said step of adjusting said control parameters, said optical input power from a optical device connected with said optical amplifying apparatus or said optical input power varied by add/drop function of an optical signal of wavelength division-multiplexing device in said optical device connected with said optical amplifying apparatus is detected, and the control parameters of said automatic constant gain control are adjusted in response to a detected result. [Ye's amplifier and its method of operation are designed to provide

constant gain and suppress the effects of transient behavior, including the adding and dropping of channels] [Fig. 12, #82] [Col. 3, line 61 - Col. 5, line 29]

- Regarding claim 5 and 10, Ye further discloses the optical amplifying method as claimed in claim 4, wherein in said step of adjusting said control parameters, proportional constant of a proportional circuit in the automatic constant gain control device as said control parameters is adjusted. [Col. 5, line 66 - Col. 7, line 41]

Conclusion

7. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

8. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.

9. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JACK KEITH
SUPERVISORY PATENT EXAMINER